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Note: Terminology in This Special Issue

NIST's policy is to closely follow international guidelines in terminology for expressing both the uncertainties of measured quantities and the units of physical quantities. You might notice that policy at work in the terms that are emphasized and terms that are avoided in the articles in this collection. During the editing process, a number of terms have been changed from those submitted by the authors in order to make the expression of uncertainty and the use of physical quantities consistent from one article to the next and consistent with the policy of the *Journal*.

For example, the term "uncertainty" is used to characterize "the dispersion of values that could reasonably be attributed" to a measured quantity (quotation from the International Vocabulary of Basic and General Terms in Metrology, published by the International Organization for Standardization). By contrast, the qualitative terms "accuracy" and "error" are generally used to characterize the closeness of the agreement between the result of a measurement and the value of the measurand and are not used to indicate uncertainty itself. The term "precision" is avoided mainly because its meaning is ambiguous. That is, a "precision" measurement could indicate that the overall uncertainty for the measured result is small or it could indicate that individual measured values of a quantity are closely clustered about the mean value.

Regarding units, the International System of Units (SI) is mandated in this and all NIST publications, so you will of course see units of the SI system such as the meter (m), kilogram (kg), second (s), etc. Perhaps the most significant change from practice elsewhere in microanalysis is the expression of relative concentrations. The term ppm, for "parts per million," is avoided because it is English-language specific and not a unit of the SI. Rather, you will see relative concentrations expressed primarily as mass fractions, such as "the mass fraction of species x in the sample is approximately 4×10^{-6}" or "the mass fraction of species x in the sample is 0.05 %," meaning simply 0.05×10^{-2}. The guidelines used at NIST are summarized in Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Results, by B. N. Taylor and C. E. Kuyatt, Technical Note 1297 (NIST, Gaithersburg MD, September 1994) and Guide for the Use of the International System of Units (SI), by B. N. Taylor, Special Publication 811 (NIST, Gaithersburg MD, April 1995).

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Chief Editor